

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully requested. Claims 26-122 are pending in the present application, with claims 26, 56, 70, 77, 84, 88, 115, and 119 being independent. Claims 26-122 have been added by this amendment, and claims 1-25 have been cancelled without prejudice or disclaimer to the subject matter contained therein.

Each of the newly added claims are representative at least in part of the previously pending claims 1-25, whereby Applicant has added claims that are representative of the allowable claims, and have made a few minor changes in order to clarify the claims. Specifically, the new claims are featured as follows:

Independent claim 26 is representative of previously pending claim 1, and has been amended in an effort to place the claim in proper form for U.S. patent practice and to emphasize a feature of the claim, as will be discussed further below.

Independent claim 56 is representative of previously pending claims 1, 2, and 20, which the Examiner indicated as being allowable.

Independent claim 70 is representative of previously pending claims 1 and 5, which the Examiner indicated as being allowable.

Independent claim 77 is representative of previously pending claims 1 and 6, which the Examiner did not specifically reject. Applicant notes, however, that claim 77 recites that the stator

includes ``exactly five pole teeth,'' whereby claim 70 recites that the stator includes ``exactly three pole teeth.'' Thus, Applicant respectfully requests that the Examiner indicate claim 77 as being allowed, or specifically indicate which teachings of the prior art teach the features of the claim.

Independent claim 84 is representative of previously pending claims 1 and 24, which the Examiner indicated as being allowable.

Independent claims 88 and 115 are new independent claims, which are discussed further below.

Independent claim 119 is representative of previously pending claim 16, which the Examiner indicated as being allowable.

New dependent claims 27-55, 57-69, 71-76, 78-83, 85-87, 89-114, 116-118, and 120-122 should be considered allowable at least for depending from an allowable base claim.

Allowable Subject Matter

Applicant notes with appreciation the Examiner's indication on page 5 of the outstanding Office Action that claims 16-19 (which are representative of claims 119-122) are allowed and that claims 5, 20, 22, and 24 (which are representative of claims 70, 56, 77, and 84, respectively, in independent form) would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections

The Examiner rejected: claims 1-4, 6-12, 14, 21, and 23 under 35 U.S.C. 102(b) as being anticipated by Spiesberger et al. (US 4,031,419); claims 13 and 15 under 35 U.S.C. §103(a) as being unpatentable over Spiesberger et al. and further in view of Morita (US 5,798,583); and claim 25 under 35 U.S.C. §103(a) as being unpatentable over Spiesberger et al. and further in view of Heine et al. (US 6,201,322). This rejection is respectfully traversed.

Claims 1-25 have been cancelled, therefore the rejections against those claims are now rendered moot.

However, in an effort to expedite prosecution Applicant respectfully submits that Spiesberger et al. or any of the other cited art fails to teach or suggest at least that an angle, taken from an axis, between any two of at least three pole teeth is substantially an integer multiple of an angular pitch of magnet poles of at least one permanent magnet of a rotor, as recited in independent claim 26 (which, as stated above, is representative of previously pending claim 1).

Spiesberger et al. is directed to a self-starting synchronous or stepping motor that has two phases, a permanent magnet rotor and a stator including individually exited and inwardly facing main stator poles. The stator poles and rotor poles have a predetermined spacing of π .

Referring to Fig. 1 of Spiesberger et al., it can be clearly seen that the angular distance as seen at the air gap between the stator teeth 4 and 5 is two times $3\pi/4$ (e.g., 1.5π). In other words, the stator teeth of Spiesberger et al. do not have the same pitch as the rotor. Therefore, it should be evident that an angular distance as seen at the air gap between Spiesberger et al.'s stator teeth, for example, teeth 4 and 5, is not an integer multiple of the pitch between the adjacent rotor magnet poles. Therefore, Spiesberger et al. does not anticipate new independent claim 26.

Independent claim 88 should be considered allowable at least because the cited art fails to teach or suggest at least an electromagnetic rotary actuator that is controlled by a single voltage, and wherein "all the coils of the at least one winding are connected to receive the same electrical phase," as recited in claim 88. Referring, for example, to Spiesberger et al. the electrical motor is driven by two electrical phases, see col. 4, line 3.

Independent claim 115 should be considered allowable at least because the cited art fails to teach or suggest at least that:

at least three pole teeth and the magnet poles of the at least one permanent magnet are so arranged that when the rotor is in a position in which the center of one of the magnet poles faces the center of a gap between two adjacent ones of the at least three pole teeth, the center of at least one of the two adjacent magnet poles faces the center of the gap between two adjacent ones of the at least three pole teeth.

Applicant respectfully submits that none of the cited art teaches at least this feature of claim 115. For example, referring to Fig. 1 of Spiesberger et al., it can be clearly seen that if the rotor is turned slightly clockwise, the center of the rotor pole (S) will be located in the center between the stator poles 2 and 3. However, that same clockwise movement will place a rotor magnet (S) with its center facing the center of stator pole 6. Thus, the cited art does not anticipate independent claim 115 for at least the foregoing reason.

Accordingly, Applicant respectfully submits that each of the independent claims are patentable over the cited art and respectfully request that the Examiner indicate such as being allowed. Additionally, as stated above, the dependent claims should be considered allowable at least for depending from allowable base claims.

Conclusion

In view of the above amendments and remarks, this application appears to be in condition for allowance and the Examiner is, therefore, requested to reexamine the application and pass the claims to issue.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant respectfully petitions for a three (3) month extension of time for

filing a reply in connection with the present application, and the required fee of \$475.00 is attached hereto.

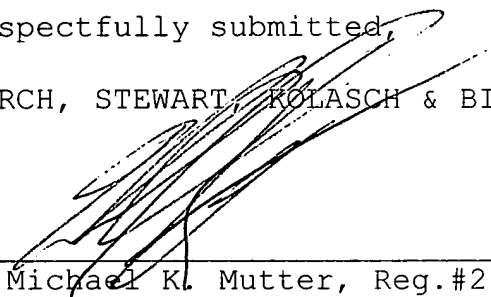
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Martin R. Geissler, Reg. No. 51,011, at (703) 205-8000, which is located in the Washington, DC area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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